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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,905	02/10/2004	Ramsay Mussen	EH-11046	1201
30188	7590	09/20/2007	EXAMINER	
PRATT & WHITNEY 400 MAIN STREET MAIL STOP: 132-13 EAST HARTFORD, CT 06108			AFZALI, SARANG	
			ART UNIT	PAPER NUMBER
			3726	
			MAIL DATE	DELIVERY MODE
			09/20/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/775,905

Applicant(s)

MUSSEN, RAMSAY

Examiner

Sarang Afzali

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on RCE filed 9/5/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, and 5-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/5/2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiskes (US 6,394,750) in view of Hellemann et al. (US 6,568,077).

As applied to claims 1 and 2, Hiskes teaches a method of repairing a cast stator vane segment wherein a replacement portion (88, Figs. 6 & 6A) including leg portion (46s), platform portion (38s), airfoil portion (64s) and foot portion (52) of a cast stator vane segment is inserted and secured to the stator vane (34, Fig. 6).

Hiskes teaches the invention cited with the exception of explicitly teaching that the replacement section is tack welded followed by electron beam welding by Leybold-

Heraeus W-3 welder, heat treating, and machining of the replacement section to a suitable shape.

However, Hellemann et al. teach a method for repairing a damaged stator vane segment including the removing of a portion of a stator vane segment (removing damage 18 by milling machine 30, Fig. 2) and securing a replacement section onto the stator segment (insert 32b, Fig. 5) by tack welds (col. 8, line 8), electron beam welding (conventional welder 34b, Fig. 5, col. 8, lines 11-16) of the insert to the stator vane, heat treating the replacement section (col. 7, lines 55-58) and followed by machining the repaired section (Abstract, line 3) in order to restore the damaged area to a substantially original, pre-damaged configuration.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided Hiskes with the steps of tack and electron beam welding, heat treating and machining of the repaired section, as taught by Hellemann et al., in order to provide an effective means of repairing and restoring a damaged section of a gas turbine segment into its original configuration.

It would have been also obvious to one of ordinary skill in the art at the time of invention to have used any conventional electron beam welding device since the Examiner takes Official Notice of the equivalence of conventional electron beam welder and "Leybold-Heraeus W-3" electron beam welder for their use in the electron beam welding art and the selection of any of conventional known equivalents to Leybold-Heraeus W-3 would be within the level of ordinary skill in the art.

Furthermore, it would have been an obvious matter of design choice to have used any conventional electron beam welder including Leybold-Heraeus W-3 type for securing the insert to the vane segment, since applicant has not disclosed that the Leybold-Heraeus W-3 type welder, solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any other types of conventional electron beam welders.

Note that although Hiskes does not teach removing an inner platform portion, it would have been obvious to one of ordinary skill in the art to have found the method equally as applicable to both inner and outer platform portions in order to provide an effective means of repairing a damaged component of a gas turbine engine.

As applied to claims 5-7, it is inherent that the vane segment is located in a compressor/high pressure section/late stage section because both Hiskes and Hellemann et al. disclose the airfoils for gas turbines.

#### ***Response to Arguments***

4. Applicant's arguments filed 8/8/2007 have been fully considered but they are not persuasive.

Applicant's main argument is that the newly amended claim 1 which recites the limitation "Leybold-Heraeus W-3 electron beam welder" is patentably distinguished from Hiskes and Hellemann.

The Examiner respectfully disagrees with the above argument. As Applicant agrees, Hiskes teaches a method of repairing a platform by removing a portion of the platform and joining a replacement section therein and Hellemann teaches the use of conventional electron beam welder to secure the replacement insert.

Note that Applicant explicitly discloses that the electron beam weld creates a stronger and more stress resistant weld than other conventional techniques, however, fails to disclose that only the "Leybold-Heraeus W-3 electron beam welder" should be used and further discloses that this particular type of welder is only "an example of a suitable electron beam welding apparatus" (Specification, page 4, paragraph 2, lines 8-12).

The Examiner submits that other conventional high voltage electron beam welders made by Leybold-Heraeus (W-1 & W-2), Hamilton Standard, PTR-Precision Technologies, and Steigerwald (see attached WME, Inc. document) would have been suitable welding devices and as such, maintains that newly amended claims 1, 2, and 5-7 are rendered obvious by Hiskes et al. in view of Hellemann et al.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

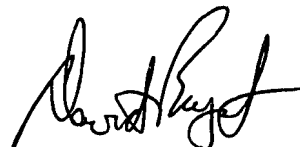
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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9/12/2007



DAVID P. BRYANT  
SUPERVISORY PATENT EXAMINER

9/13/07